# EXECUTIVE SUMMARY

The Walla Walla Watershed encompasses portions of Southeast Washington and Northeast Oregon. The Washington portion, which represents about 73% of the basin, is identified as Water Resource Inventory Area (WRIA) 32. The basin historically supported large numbers of salmonids including spring chinook, summer steelhead, and bull trout (Confederated Tribes of the Umatilla Indian Reservation *et al.* 1990; Mendel *et al.* 1999). Spring chinook have been extinct since 1950 (Mendel *et al.* 1999. Summer steelhead and bull trout are listed as endangered under the Endangered Species Act (ESA) (U.S.Fish and Wildlife Service 1998, National Marine Fisheries Service 1999).

Landuse impacts associated with surface water withdrawals, dryland agriculture, and residential development have had profound negative impacts on salmonid habitat on private lands in both the Washington and Oregon portions of the basin. Many of these stream reaches exhibit low or non-existent summer stream flows and water temperatures far above the tolerance level of salmonids. These conditions are a combination of naturally arid summer climatic conditions, surface water withdrawals, removal of riparian vegetation, and disruption of surface water-ground water exchanges (hydraulic continuity) through bank armoring, channel straightening, and diking of floodplains. Hundreds of inadequately screened surface water diversions are present in salmonid bearing streams. Many stream reaches adjacent to or downstream from private lands carry extremely high fine sediment loads derived from erosion of agricultural fields. This has led to embedded and/or buried streambed substrate, significantly reducing the area available for salmonid spawning habitat. The majority of these reaches also lack instream habitat complexity associated with abundant amounts of large woody debris (LWD), pools, and off-channel habitat.

Habitat conditions on public lands managed by the United States Forest Service (USFS) standout in stark contrast to those found on private lands downstream. Headwater reaches of streams throughout the Blue Mountains in Washington and Oregon provide the last remaining area of refuge for spawning and rearing summer steelhead and bull trout. In some cases (such as LWD and pool quantities), conditions on these stream reaches are not ideal, but they are far more favorable to salmonids than those found downstream on private lands.

This report deals with habitat conditions only. It does not deal with harvest, hydropower, or hatchery issues. The report is a summary of existing knowledge from published sources and interviews of people with expertise in the Walla Walla Watershed. It is intended to provide guidance for implementation of salmonid habitat restoration projects. It is not a recovery plan for summer steelhead or bull trout, although it could be a component of such a plan. Habitat conditions are described, then assessed based on standards developed from published sources and consultations with local natural resource agency personnel, finally recommendations are made to improve habitat conditions.

# WALLA WALLA WATERSHED BASIN-WIDE RECOMMENDATIONS

1. Conduct a comprehensive inventory of surface water diversions (legal and illegal) in Washington and Oregon.
2. Screen all surface water diversions in Washington and Oregon according to state and federal juvenile fish screening criteria.
3. Replace push-up dams with more permanent structures that reduce streambed disturbance and improve fish passage.
4. Increase summer stream flows in the Lower Touchet and Lower Walla Walla subbasins as well as downstream from Nursery Bridge in Oregon. Summer flows on fish bearing tributary streams should also be restored.
5. Where possible, conserve water by converting irrigated agriculture to dryland farming, reducing lawn watering, car washing, etc.
6. Utilize no-till farming methods on as many acres of dry farmed cropland as possible.
7. Replant native riparian vegetation along streams beginning on the upper reaches of spawning and rearing areas, then progressing downstream to lower priority migration areas.
8. Reduce summer water temperatures to comply with state standards for salmonid habitat usage.
9. Improve instream habitat on the upper reaches of spawning and rearing areas by providing large woody debris, consolidating braided channels, stabilizing eroding banks with bioengineering, and creating pools.
10. Restore floodplain connectivity and natural channel migration by removing or setting back dikes and levees and removing bank armoring.
11. Continue to identify fish passage problems and correct barriers that restrict access to useable habitat.
12. Increase water quality monitoring to ensure that streams comply with state water quality standards and correct violations where identified.
13. Determine the appropriate management strategy of Mill Creek below Bennington Lake Dam and Yellowhawk and Garrison Creeks, including investigating the feasibility of screening-off Mill Creek at Gose Road and at the Yellowhawk Division. Yellowhawk Creek would then serve as the migration corridor from the Walla Walla River to the Upper Mill Creek Subbasin.
14. In emergency situations, restrict unpermitted flood repair work to a short timeframe during which an eminent threat of damage to life or property exists, thereby minimizing destruction of salmonid habitat.
15. Enforce landuse regulations including the Growth Management Act, Shoreline Management Act, and Critical Area ordinances.
16. Fence livestock out of streams.
17. Increase protection of critical salmonid habitat areas. See Habitat to Protect.

Table 1. Walla Walla Watershed Landmarks.

| Landmark | River Mile |
|---|---|
| Walla Walla River | |
| Historic mouth of the Walla Walla River | 0.0 |
| Current mouth of the Walla Walla River | 3.2 |
| Touchet River (RB) | 22.6 |
| Pine Creek (LB) | 24.1 |
| Mud Creek (LB) | 27.9 |
| Dry Creek (RB) | 29.4 |
| McDonald Road Bridge | 31.6 |
| West Little Walla Walla River (LB) | 33.4 |
| Mill Creek (RB) | 33.5 |
| Burlingame Diversion Dam | 37.4 |
| East Little Walla Walla River (LB) | 38.1 |
| Yellowhawk Creek (RB) | 38.9 |
| Stateline | 41.9 |
| Nursery Bridge Diversion Dam | 46.0 |
| Little Walla Walla Diversion Dam | 47.0 |
| Couse Creek (LB) | 48.6 |
| Confluence of North and South Forks | 52.0 |
| | |
| South Fork Walla Walla River | |
| Confluence of the North and South Forks | 0.0 |
| Flume Canyon Creek | 4.5 |
| Harris County Park | 7.5 |
| Start of BLM Ownership | 8.0 |
| Elbow Creek | 9.8 |
| End of BLM Ownership | 11.5 |
| Forest Boundary | 12.8 |
| Burnt Cabin Creek | 14.1 |
| Table Creek | 15.5 |
| Skiphorton Creek | 17.0 |
| Reser Creek | 19.9 |
| Deduct Springs (source of the South Fork Walla Walla River) | 27.1 |

Table 1. Continued.

| Landmark | River Mile |
|---|---|
| North Fork Walla Walla River | |
| Confluence of North and South Forks | 0.0 |
| End of County Road | 3.5 |
| Forest Boundary | 11.0 |
| Source of the North Fork Walla Walla River | 18.0 |
| | |
| Touchet River | |
| Mouth of the Touchet River | 0.0 |
| Prescott, WA | 34.3 |
| Coppei Creek (LB) | 43.0 |
| Waitsburg, WA | 44.0 |
| Dayton, WA | 57.0 |
| Patit Creek (RB) | 57.2 |
| Confluence of North and South Forks | 55.0 |
| | |
| North Fork Touchet River | |
| Confluence of North and South Forks | 0.0 |
| Wolf Fork (LB) | 3.5 |
| Jim Creek (RB) | 7.3 |
| Lewis Creek | 10.6 |
| End of Paved County Road | 10.9 |
| Forest Boundary (RB) | 11.9 |
| Spangler Creek (RB) | 13.8 |
| “Bluewood Creek” | 18.6 |
| Source of the North Fork Touchet River | 20.0 |
| | |
| South Fork Touchet River | |
| Confluence of North and South Forks | 0.0 |
| Rainwater Wildlife Area Boundary | 10.9 |
| Griffin Fork (RB) | 14.4 |
| Burnt Fork (RB) | 15.7 |
| Forest Boundary | 19.6 |
| Source of the South Fork Touchet River (Green Fork) | 20.2 |

Table 1. Continued.

| Landmark | River Mile |
|---|---|
| Mill Creek | |
| Mouth of Mill Creek | 0.0 |
| Lower End of Mill Creek Project (Gose Road) | 4.8 |
| Yellowhawk/Garrison Diversion | 10.5 |
| Bennington Lake Diversion Dam | 11.5 |
| Blue Creek (RB) | 16.9 |
| Old City Water Intake Dam | 21.2 |
| Stateline | 21.6 |
| Henry Canyon Creek (LB) | 23.2 |
| Tiger Creek (LB) | 24.6 |
| Forest Boundary | 24.7 |
| New City Water Intake Dam | 25.2 |
| Low Creek | 25.7 |
| Broken Creek | 26.0 |
| Stateline | 26.4 |
| Paradise Creek | 26.7 |
| North Fork Mill Creek | 28.3 |
| Deadman Creek | 30.6 |
| Source of Mill Creek | 33.0 |

Note: Source Northrop (1998) and Washington Department of Fish and Wildlife Stream Catalog.